

~~16. (NEW) A method for generating a configuration for a system comprising:~~

~~defining in a computer system a structural model consisting of elements used to configure a system and structural relationships between said elements in said model; and~~

~~means for generating a plurality of components of said system that are instances of at least one element of said model.--~~

~~--17. (NEW) The method of claim 16 further comprising:~~

~~means for generating by said computer system a Bill of Materials report.-~~

~~--18. (NEW) The method of claim 17 wherein said report further comprises a part number, at least one spare part in said configuration, resource totals, failed requests, and failed optional requests. -~~

~~--19. (NEW) The method of claim 16 further comprising:~~

~~means for defining said structural relationships between base classes in said model.—~~

~~--20. (NEW) The method of claim 16 further comprising:~~

~~means for maintaining said model. --~~

~~--21. (NEW) The method of claim 16 further comprising:~~

~~means for establishing at least one of said plurality of components that can satisfy constraints of said plurality of components.--~~

- 22. (NEW) An article of manufacture comprising:
- a model of components used to configure a system comprising elements and structural relationships between said elements;
 - a plurality of constraints of said elements;
 - a configuration request;
 - a means for generating a configuration for said system, said system configuration specifying a plurality of components that comprise said system that are responsive to said request. --
- 23. (NEW) The article of manufacture of claim 22 wherein said configuration request is a request for a component. --
- 24. (NEW) The article of manufacture of claim 22 wherein said configuration request is a request that identifies a need in said system. --
- 25. (NEW) The article of manufacture of claim 22 wherein said configuration request is a request for a resource for said system. --
- 26. (NEW) A method for generating a system configuration comprising:
- means for specifying a plurality of components;
 - means for obtaining a configuration request;
 - means for obtaining an instance of said plurality of components in response to said configuration request;
 - means for satisfying a plurality of constraints of said component.--
- 27. (NEW) The method of claim 26 wherein said configuration request comprises a request for at least one component of said plurality of components. --

- 28. (NEW) The method of claim 26 wherein said configuration request identifies a need in said system. --
- 29. (NEW) The method of claim 26 wherein said configuration request comprises a resource associated with a system configuration. --
- 30. (NEW) The method of claim 26 further comprising:
means for defining a model that comprises a definition for each of said plurality of components selectable for inclusion in a system configuration where said model satisfies at least one of said constraints of said components.--
- 31. (NEW) The method of claim 30 further comprising:
means for examining said model to select said component using said component's definition in said model.--
- 32. (NEW) The method of claim 30 further comprising:
means for identifying said plurality of constraints of said component by examining said model;
means for identifying said at least one component of said system configuration that satisfies said plurality of constraints;
means for adding a new component in said system configuration to satisfy said plurality of constraints.--
- 33. (NEW) A method for satisfying a constraint in a system configuration comprising:

means for identifying a component of a system configuration having a constraint;

means for determining whether said system configuration can satisfy said constraint;

means for creating a new component in said system configuration to satisfy said constraint if said system configuration cannot satisfy said constraint. -

--34. (NEW) The method of claim 33 wherein said means for identifying a component of said system configuration having a constraint further comprises:

means for defining a model comprising definitions for a plurality of components selectable for inclusion in said system configuration and constraints on said plurality of components;

means for examining said model to determine whether said constraints on said plurality of components includes said constraint.--

--35. (NEW) The method of claim 33 wherein said means for determining whether said system configuration can satisfy said constraint further comprises:

means for examining said system configuration to determine whether another component of said system configuration is available to satisfy said constraint.--

--36. (NEW) The method of claim 35 wherein said means for examining said system configuration to determine whether another component of said system configuration is available to satisfy said constraint further comprises:

means for identifying a destination component of said system configuration having available ports;

means for determining whether one of said available ports is compatible with a port of said component;

means for connecting said one of said available ports with said port of said component if said compatibility exists.--

--37. (NEW) The method of claim 36 wherein said means for determining whether one of said available ports is compatible with a port of said component further comprises:

means for causing a computer to determine whether the physical type and logical type of said one of said available ports is compatible with said port of said component.--

--38. (NEW) The method of claim 36 wherein said means for determining whether one of said available ports is compatible with a port of said component further comprises:

means for determining whether a transfer path exists between said one of said available ports and said port of said component.--